IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Canceled).

Claim 2 (Currently Amended): A dental caries detecting device, comprising:

an ultraviolet light source that irradiates ultraviolet light of at least two different intensities, including ultraviolet light of first intensity and ultraviolet light of second intensity, onto a single measuring area of a tooth;

a fluorescence receiving portion that receives fluorescence from [[a]] the single measuring area of [[a]] the tooth in response to the ultraviolet irradiation of the at least two different light intensities from the ultraviolet light source;

a fluorescence data analysis portion that analyzes fluorescence data transmitted from the fluorescence receiving portion; and

a data display portion that displays data analyzed by the fluorescence data analysis portion, wherein

the fluorescence receiving portion receives first fluorescence by the ultraviolet light of first intensity and transmits first fluorescence data to the fluorescence data analysis portion,

the fluorescence receiving portion receives second fluorescence by the ultraviolet light of second intensity and transmits second fluorescence data to the fluorescence data analysis portion, and

~~wherein~~ said fluorescence data analysis portion analyzes ~~data based on a plurality of fluorescence intensities~~ the first fluorescence data and the second fluorescence data in at least one wavelength band ~~that changes in response to change in the light intensity of said ultraviolet irradiation~~.

Claim 3 (Previously Presented): The dental caries detecting device according to claim 2, wherein said fluorescence data analysis portion calculates a degree of progress of dental caries based on said fluorescence intensity in a first wavelength band selected in a wavelength band from 550 nm to 810 nm and having a wavelength width from 0.1 nm to 260 nm, and said fluorescence intensity in a second wavelength band selected from a wavelength band from 380 nm to 550 nm and having a wavelength width from 0.1 nm to 170 nm.

Claim 4 (Previously Presented): The dental caries detecting device according to claim 2, wherein said fluorescence data analysis portion calculates a degree of progress of dental caries based on said fluorescence intensity in a first wavelength band selected from a wavelength band from 550 nm to 810 nm and having a wavelength width from 0.1 nm to 260 nm, and one or more of said fluorescence intensity in a second wavelength band selected from a wavelength band from 380 nm to 550 nm and having a wavelength width from 0.1 nm to 170 nm and said fluorescence intensity in a third wavelength band selected from a wavelength band from 450 nm to 650 nm and having a wavelength width from 0.1 nm to 200 nm.

Claim 5 (Previously Presented): The dental caries detecting device according to claim 4, wherein said fluorescence receiving portion comprises an optical device that can extract information related to said fluorescence intensity in said first wavelength band and said second and/or third wavelength band from said visible light range.

Claim 6 (Original): The dental caries detecting device according to claim 5, wherein said optical device is one of a spectroscopic luminance meter, a color CCD, a CMOS, or an optical sensor with a color filter for at least two colors.

Claim 7 (Previously Presented): The dental caries detecting device according to claim 6, wherein an output intensity of said ultraviolet light source is adjustable.

Claim 8 (Original): The dental caries detecting device according to claim 7, wherein said ultraviolet light source is an ultraviolet LED.

Claim 9-13 (Canceled).

Claim 14 (Currently Amended): A dental caries detecting method, comprising:

irradiating a single measuring area of a tooth with ultraviolet light of at least two different intensities from a light source;

obtaining fluorescence from said single measuring area for the at least two different light intensities of the ultraviolet light from the light source among light intensities U_1, U_2, ..., and U_n where $U_1 > U_2 ... > U_n$ as first, second, ..., and n-th information, respectively;

obtaining first fluorescence intensities R_1, B_1, and G_1, second fluorescence intensities R_2, B_2, and G_2, ..., and n-th fluorescence intensities R_n, B_n, and G_n of said fluorescence in at least two wavelength bands selected from a first wavelength band selected from a wavelength band from 550 nm to 810 nm and having a wavelength from 10 nm to 260 nm, a second wavelength band selected from a wavelength band from 380 nm to 550 nm and having a wavelength width from 10 nm to 170 nm, and a third wavelength band selected from a

wavelength band from 450 nm to 650 nm and having a wavelength width from 10 nm to 200 nm based on said first information, the second information,..., and the n-th information;

carrying out calculation according to the following formula (5):

$(R_1 - R_2) + (R_2 - R_3) + ...+ (R_{n-1} - R_n)$ ...formula (5)

and

determining that there is a possibility of dental caries if a sign of a result obtained from formula (5) is positive, and determining that the tooth is healthy if the sign is negative or a result is zero.

Claim 15 (Previously Presented): The dental caries detecting method according to claim 14, further including:

calculating a dental caries degree CD_3 according to the following formula (6) if it is determined that there is a possibility of dental caries,

$CD_3 = (R_{n-1}/R_n) \times (B_{n-1}/B_n)$ ...formula (6)

comparing a value of said dental caries degree CD_3 and an upper threshold F_3;

determining the tooth as being healthy if the value of said dental caries degree CD_3 is equal to or larger than said upper threshold F_3 and determining the presence of dental caries if the value of said dental caries degree CD_3 is smaller than said upper threshold F_3.

Claim 16 (Previously Presented): The dental caries detecting method according to claim 15, further including:

comparing the value of said dental caries degree CD_3 and a lower threshold E_3 if the presence of dental caries is determined; and

determining that the dental caries is minor if the value of said dental caries degree CD_3 is equal to or larger than said lower threshold E_3, and determining that the dental caries is severe if the value of said dental caries degree CD_3 is smaller than said lower threshold E_3.

Claim 17 (Previously Presented): The dental caries detecting method according to claim 14, further including:

calculating a dental caries degree CD_4 according to the following formula (7) if it is determined that there is a possibility of dental caries,

$CD_4 = (R_{n-1}/R_n) \times (G_{n-1}/G_n)$ ...formula (7)

comparing a value of said dental caries degree CD_4 and an upper threshold F_4; and

determining the tooth as being healthy if the value of said dental caries degree CD_4 is equal to or larger than said upper threshold F_4, and determining the presence of dental caries if the value of said dental caries degree CD_4 is smaller than said upper threshold F_4.

Claim 18 (Previously Presented): The dental caries detecting method according to claim 17, further including:

comparing the value of said dental caries degree CD_4 and a lower threshold E_4 if the presence of dental caries is determined; and

determining that the dental caries is minor if the value of said dental caries degree CD_4 is equal to or larger than said lower threshold E_4 and determining that the dental caries is severe if the value of said dental caries degree CD_4 is smaller than said lower threshold E_4.

Claim 19 (Previously Presented): The dental caries detecting method according to claim 14, further including:

calculating a dental caries degree CD_4 according to the following formula (8) if it is determined that there is a possibility of dental caries,

$$CD_5 = (R_{n-1}/R_n) \times \{(G_{n-1}/G_n) + (B_{n-1}/B_n)\} \quad \text{...formula (8)}$$

comparing a value of said dental caries degree CD_5 and an upper threshold F_5; and

determining the tooth as being healthy if the value of said dental caries degree CD_5 is equal to or larger than said upper threshold F_5, and determining the presence of dental caries if the value of said dental caries degree CD_5 is smaller than said upper threshold F_5.

Claim 20 (Previously Presented): The dental caries detecting method according to claim 19, further including:

comparing the value of said dental caries CD_5 and a lower threshold E_5 if the presence of dental caries is determined; and

determining that the dental caries is minor if the value of said dental caries CD_5 is equal to or larger than the lower threshold E_5 and determining that the dental caries is severe if the value of said dental caries degree CD_5 is smaller than said lower threshold E_5.

Claim 21 (Original): The dental caries detecting method according to any one of claims 14 to 20, wherein said n is 2.

Claim 22 (Currently Amended): A dental caries detecting computer readable medium including computer executable instructions, wherein the instructions, when executed by a processor, cause the processor to perform the dental caries detecting method according to any one of claims [[9]] 14 to 20.

Claim 23 (Currently Amended): A dental caries detecting method that detects dental caries based on fluorescence from a measuring area of a tooth, comprising:

~~irradiates~~ irradiating the measuring area with ultraviolet light of at least two different light intensities from a light source;

obtaining fluorescence from said measuring area as first information, second information , ..., and n-th information for at least two different light intensities of the ultraviolet light from the light source U_1, U_2, ..., and U_n where $U_1 > U_2 ... > U_n$;

obtaining a first fluorescence intensity R_1, a second fluorescence intensity R_2, ..., and an n-th fluorescence intensity R_n in a first wavelength band selected from a wavelength band from 550 nm to 810 nm and having a wavelength width from 10 nm to 260 nm based on said first information, the second information,..., and the n-th information;

calculating according to the following formula (5):

$$(R_1 - R_2) + (R_2 - R_3) + ... + (R_{n-1} - R_n) \quad \text{...formula (5)}$$

and

determining that there is a possibility of dental caries if a sign of a result obtained from formula (5) is positive, and determining that the tooth is healthy if the sign is negative or the result is zero.

Claim 24 (Canceled).

Claim 25 (Currently Amended): The dental caries detecting device according to claim 2, wherein the fluorescence receiving portion includes a UV cut filter configured to ~~block~~ pass light of ~~less than~~ at least 400 nm.

Claims 26 and 27 (Canceled).

Claim 28 (Currently Amended): The dental caries detecting method according to claim 14, wherein the obtaining the fluorescence includes utilizing a UV cut filter to ~~block~~ pass light of ~~less than~~ at least 400 nm.

Claim 29 (Currently Amended): The dental caries detecting method according to claim 23, wherein the obtaining the fluorescence includes utilizing a UV cut filter to ~~block~~ pass light of ~~less than~~ at least 400 nm.